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**national farmers union**  
*In Union Is Strength*

**FOR IMMEDIATE RELEASE**

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### **EXPERT PANS ETHANOL**

**SASKATOON, Sask.**—“Ethanol production from corn is a fossil-energy-losing proposition,” is the conclusion of Professor Tad Patzek who is a petroleum and chemical engineer at University of California, Berkeley. Patzek was speaking as part of a four-person panel on ethanol at the NFU National Convention in Saskatoon this past weekend. Patzek outlined his extensive research designed to “look under the hood” of the complex ethanol production system in North America.

In most facilities, ethanol is distilled from grain. That grain is produced using large amounts of fossil fuels. With detailed data and references to numerous comparable studies, Patzek demonstrated that the actual energy used to produce a corn feedstock—energy contained in fuels, fertilizers, transport, machinery construction, etc.—exceeds that amount of energy available when the ethanol is burned.

Further, all speakers on the panel agreed that the energy balance for wheat-based ethanol would be *even less favorable* than the energy balance for corn-based ethanol.

Patzek’s analysis shows that the quantity of fossil fuels needed to produce a wheat or corn feedstock would exceed the amount of fossil fuels replaced by the resulting ethanol. A ‘negative energy balance’ means that burning ethanol increases, not decreases, total fossil fuel consumption.

Patzek also outlined the high water use of ethanol production plants and their harmful environmental emissions. He summed up by saying that in our push to produce ethanol:

*“We have:*

- Burned more fossil fuels than the energy content of the ethanol from corn;*
- Degraded and eroded soil on millions of acres;*
- Polluted surface and groundwater with nitrates, herbicides, pesticides, and ethanol waste;*
- Polluted air with CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC, etc. [Carbon-monoxide, Nitrous Oxide, Sulphur Dioxide, Volatile Organic Compounds, etc.] ;*
- Continued to waste billions [of dollars] of taxpayers' money; and*
- Devised a terrible solution of air quality problems.”*

Tad Patzek is Professor of Geo-Engineering at the Department of Civil and Environmental Planning, University of California, Berkeley. He holds a Masters of Science and a Doctorate in Chemical Engineering from the Silesian Technical University, Gliwice, Poland. His research combines analytical and numerical modeling of petroleum flows. His other research interests involve long-term sustainability, the production of ethanol from corn, and the use of hydrogen as an energy carrier. He is co-author of over 100 research papers and reports.

The NFU's National Convention focused on climate change, energy, and agriculture. Delegates from across Canada learned and debated about the effects of climate change, energy alternatives and conservation, and the use of energy in our food production and transportation systems.

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